NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

WSOU INVESTMENTS LLC, DBA BRAZOS LICENSING AND DEVELOPMENT,
Plaintiff-Appellant

v.

GOOGLE LLC,
Defendant-Appellee

2022-1063

Appeal from the United States District Court for the Western District of Texas in No. 6:20-cv-00574-ADA, Judge Alan D. Albright.

WSOU INVESTMENTS LLC, DBA BRAZOS LICENSING AND DEVELOPMENT,
Plaintiff-Appellant

v.

GOOGLE LLC,
Defendant-Appellee

2022-1065

Appeal from the United States District Court for the Western District of Texas in No. 6:20-cv-00578-ADA, Judge Alan D. Albright.

Decided: October 19, 2023

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Before LOURIE, LINN, and STOLL, *Circuit Judges*.

STOLL, *Circuit Judge*.

WSOU Investments LLC, dba Brazos Licensing and Development (WSOU) appeals from a judgment of the U.S. District Court for the Western District of Texas that construed certain claim terms in U.S. Patent Nos. 8,965,045 and 9,335,825 in means-plus-function format and thus subject to 35 U.S.C. § 112 ¶ 6[1] and held those claims indefinite

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[1] The Leahy-Smith America Invents Act (AIA) redesignated § 112 ¶¶ 2 and 6 as, respectively, § 112(b) and (f). Leahy-Smith America Invents Act, Pub. L. No. 112-29, sec. 4(c), 125 Stat. 284, 296 (2011). We refer to the pre-AIA version because the applications resulting in the '045 and '825

under that construction. For the below reasons, we affirm the district court's decision as to the '045 patent, but reverse its decision as to the '825 patent and remand for further proceedings.

BACKGROUND

The '045 patent relates to image tracking and capture. Claims 1–17 are at issue on appeal. The claim limitation at issue is "processor configured to" perform certain functional language, which appears in claim 1 as follows:

> 1. An apparatus comprising:
>
> a viewfinder display configured to display a first and second picture;
>
> ***a processor configured to*** move automatically a sub-set of pixels defining a target captured image that corresponds to the first picture, within a larger set of available pixels in a direction of an edge of the target captured image when a defined area of interest within the target captured image approaches the edge of the target captured image,
>
> ***said processor configured to*** provide a pre-emptive user output when the sub-set of pixels approaches an edge of the set of available pixels, and the second picture corresponds to the larger set of available pixels,
>
> wherein the viewfinder display is configured to display the first picture within the second picture.

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patents were filed before September 16, 2012. *See id.* sec. 4(e), 125 Stat. at 297; *see also Media Rights Techs., Inc. v. Cap. One Fin. Corp.*, 800 F.3d 1366, 1371 n.1 (Fed. Cir. 2015).

'045 patent col. 14 l. 65–col. 15 l. 13 (emphases added to highlight disputed limitation).

The '825 patent relates to controlling a device using gestures. Claims 1–2 and 12 are at issue on appeal. The claim limitation at issue is "at least one memory including computer program code, where the at least one memory and the computer program code are configured, with the at least one processor to cause the apparatus to" perform certain functional language, which appears in claim 1 as follows:

> 1. An apparatus comprising:
>
> at least one processor; and
>
> ***at least one memory including computer program code, where the at least one memory and the computer program code are configured, with the at least one processor, to cause the apparatus to at least***:
>
> > detect that an application is being started on the apparatus;
> >
> > in response to the application being started on the apparatus, turn on a continuous wave doppler radar at the apparatus and transmit radio signals that comprise the continuous wave doppler radar, wherein the radio signals are at least partially reflected by a human body of a user of the apparatus;
> >
> > receive the transmitted radio signals after having been at least partially reflected by a gesture by the human body of the user;
> >
> > detect in the received radio signals a predetermined time-varying modulation caused by the gesture by the human body of the user and that is present in a modulation of

> the received radio signals as compared to a modulation of the transmitted radio signals, wherein detecting the predetermined time-varying modulation of the received signal comprises detecting a doppler frequency shift in the continuous wave doppler radar of the radio signals transmitted from the apparatus, wherein the doppler frequency shift comprises a frequency modulated continuous wave variation caused by the gesture by the human body of the user;
>
> associate the detected predetermined time-varying modulation with a predetermined user input command; and
>
> based on the associated predetermined user input command control at least one operation of the application on the apparatus.

'825 patent col. 10 ll. 29–61 (emphasis added to highlight disputed limitation).

In its claim construction order, the district court evaluated whether each of these limitations was in means-plus-function format subject to § 112 ¶ 6 and, if so, whether the respective specifications disclosed adequate corresponding structure to avoid indefiniteness under § 112 ¶ 2. *See WSOU Invs. LLC v. Google LLC*, No. 6-20-cv-00574-ADA, ECF No. 61 (W.D. Tex. Mar. 9, 2022) ("*Claim Construction Order*"). The district court determined that the disputed limitations in both patents were written in means-plus-function format; that those claims were therefore subject to § 112 ¶ 6; that the patents' specifications did not disclose corresponding structure to perform the claimed functions; and, thus, that the claims were indefinite under 35 U.S.C. § 112. *Claim Construction Order* at 26–32, 37–41.

Based on the district court's claim construction, the parties stipulated to final judgment that claims 1–17 of the '045 patent and claims 1–2 and 12 of the '825 patent are invalid as indefinite. WSOU timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

"Regarding questions of claim construction, including whether claim language invokes [§ 112 ¶ 6], the district court's determinations based on evidence intrinsic to the patent as well as its ultimate interpretations of the patent claims are legal questions that we review de novo." *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1346 (Fed. Cir. 2015) (en banc) (citing *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 331 (2015)). "To the extent the district court, in construing the claims, makes underlying findings of fact based on extrinsic evidence, we review such findings of fact for clear error." *Id.*

A means-plus-function claim construction analysis involves a two-step process. *Dyfan, LLC v. Target Corp.*, 28 F.4th 1360, 1365 (Fed. Cir. 2022) (citing *Williamson*, 792 F.3d at 1349–51). First, we determine whether the disputed limitation is drafted in means-plus-function format, i.e., "whether [or not] it connotes sufficiently definite structure to a person of ordinary skill in the art." *Id.* If the claim limitation does connote sufficiently definite structure, it is not written in means-plus-function format and § 112 ¶ 6 does not apply. However, if the claim limitation is written in means-plus-function format, we continue to step two, which requires us to determine "what structure, if any, disclosed in the specification corresponds to the claimed function." *Williamson*, 792 F.3d at 1351.

When, as is the case here, the disputed limitation does not include the word "means," there is a rebuttable presumption that the limitation is not drafted in means-plus-function format. *Dyfan*, 28 F.4th at 1365. This presumption "can be overcome and § 112 [¶] 6 will apply if the

challenger demonstrates that the claim term fails to 'recite[] sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'" *Williamson*, 792 F.3d at 1348–49 (citing *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)).

On appeal, in both cases, WSOU makes two arguments—first, that the district court erred in concluding that the disputed claim limitations invoke § 112 ¶ 6; and second, that the district court erred in concluding that the specification fails to disclose adequate structure corresponding to the claimed function. We address each argument in turn for both patents.

I

First, we address the '045 patent. Claim 1 of that patent requires, among other things, a "processor," "said processor configured to provide a pre-emptive user output when the sub-set of pixels approaches an edge of the set of available pixels." '045 patent col. 15 ll. 1, 7–9. As the district court correctly noted, and both parties agree on appeal, this claim limitation is presumed not to be in means-plus-function format because it lacks the word "means." *Williamson*, 792 F.3d at 1349 (explaining that the presumption exists but is not "strong").

To rebut this presumption, Google relied on the '045 patent specification, which provides a vague understanding of what the structure of the claimed "processor" is, referring to hardware, software, or essentially anything else that could perform the claimed functions. The district court agreed with Google, determining that this limitation "recites purely functional language." *Claim Construction Order* at 31. Specifically, the court found that "the language of the patent leads to the conclusion that 'processors' is meant to generically be anything that manipulates data." *Id.* (cleaned up).

We see no error in the court's determination that the term "processor" in the claims of the '045 patent does not recite sufficiently definite structure. To be sure, the term "processor" is not a nonce word and, in some circumstances, the term would connote sufficient structure. As we have explained, however, the applicability of § 112 ¶ 6 depends on the specific context of the patent at issue. *Williamson*, 792 F.3d at 1350–51 & n.5; *see also Advanced Ground Info. Sys. Inc. v. Life360, Inc.*, 830 F.3d 1341, 1348 (Fed. Cir. 2016) (analyzing whether a claim term is in means-plus-function format by looking to the "combination of the terms *as used in the context of the relevant claim language*") (emphasis added). As such, there is no categorical rule regarding whether the term "processor" connotes sufficient structure to avoid interpretation in means-plus-function format. Indeed, district courts have found some uses of "processor" connote sufficient structure while others do not. *See, e.g.*, *St. Isodore Research, LLC v. Comerica Inc.*, No. 2:15-cv-1390, 2016 WL 4988246, at *15 (E.D. Tex. Sept. 18, 2016) (stating that the court has "typically found 'processor' to connote sufficient structure to avoid the application of § 112, ¶ 6" but nonetheless construing the particular "processor" claim limitation at issue as a means-plus-function limitation). Instead, each claim term must be construed on its own in light of the intrinsic and extrinsic evidence of record.

In this case, as the district court correctly noted, the specification treats the word "processor" so broadly as to generically be any structure that manipulates data. The specification states that "[i]mplementation of the processor 4 can be in hardware alone . . ., have certain aspects in software including firmware alone or can be a combination of hardware and software (including firmware)," '045 patent col. 13 ll. 6–9; *see also id.* col. 14 ll. 7–21 (repeating same), and that the "processor 4 may be implemented using instructions that enable hardware functionality, for example, by using executable computer program instructions in a

general-purpose or special-purpose processing unit that may be stored on a computer readable storage medium . . . to be executed by such a processing unit," *id.* col. 13 ll. 10–15. In other words, the specification teaches that the processor could be software, hardware, or a combination of the two. Other references to the "processor" in the specification describe it only in terms of its function, i.e., what it does—stating the processor "is configured to" accomplish various goals. *See, e.g.*, '045 patent col. 5 ll. 1–2, 26–36. In the context of this claim, this specification, and this specific invention, "processor" is so generically and functionally described as to fail to convey a sufficiently definite meaning as a name for a structure. *See Williamson*, 792 F.3d at 1349. We therefore agree with the district court's determination that this claim limitation is written in means-plus-function format and is thus subject to the requirements of § 112 ¶ 6.

Having found that the claim limitation was written in means-plus-function format, we move to step two of the § 112 ¶ 6 inquiry, which asks whether the specification adequately discloses an algorithm for performing the claimed function. *Claim Construction Order* at 32 (citing *Function Media, LLC v. Google, Inc.*, 708 F.3d 1310, 1318 (Fed. Cir. 2013) ("When dealing with a 'special purpose computer-implemented means-plus-function limitation,' we require the specification to disclose the algorithm for performing the function.")).

WSOU argues for the first time on appeal that the specification discloses corresponding structure. Before the district court, WSOU did not present an argument on step two. In other words, WSOU did not dispute Google's argument that, if the claim was written in means-plus-function format, the specification does not disclose corresponding structure and thus the claims are indefinite. As we have explained, "argument[s] . . . not timely raised before the district court . . . [are] waived." *Cordis Corp. v. Bos. Sci. Corp.*, 561 F.3d 1319, 1337 (Fed. Cir. 2009). Accordingly,

we will not consider WSOU's argument presented for the first time on appeal.

We thus affirm the district court's determination that because the "processor" limitation in independent claim 1 of the '045 patent invokes § 112 ¶ 6 and the specification does not disclose corresponding structure, claims 1–17 are indefinite under § 112 ¶ 2.

II

Next, we address the '825 patent. The limitation at issue in the asserted claims of this patent is "at least one memory and the computer program code are configured, with the at least one processor, to cause the apparatus to" accomplish various functions. '825 patent col. 10 ll. 31–34. Like the previous claim limitation, this limitation receives the benefit of the presumption that it is not in means-plus-function format because it lacks the word "means." *Williamson*, 792 F.3d at 1349. Unlike the previous claim limitation, however, we conclude that Google has not rebutted the presumption. Google asserts that the collective "memory," "computer program code," and "processor" terms convey no "structural character" to a person of ordinary skill in the art and that they are understood "solely by the different functions they are assigned to perform." No. 1065 Appellee's Br. 24. We disagree.

In light of the intrinsic record in this case, we conclude that a person of ordinary skill in the art would understand the structure of the claimed "computer program code," "memory," and "processor." First, the claim language itself provides structural guidance. For example, the claim limitation at issue requires "at least one memory including computer program code," which is configured "with the at least one processor" to perform various tasks. '825 patent col. 10 ll. 31–34. WSOU asserts that a person of ordinary skill in the art reading the claim in light of the specification would understand that the recited computer program code is stored in a memory structure and running on the

processor. No. 1065 Appellant's Br. 18. We agree. The disputed claim limitation recites multiple elements and their connections to one another. Though terms like "computer program code," "memory," and "processor" may be broad, the recited combination of these multiple broadly named structures informs the skilled artisan's relative understanding of what each structure is and what it is not, as well as how the various structures relate to one another.

Our precedent supports this conclusion. We have explained that claim limitations like the recited "computer program code," when combined with a description of what the code is intended to accomplish, convey definite structure to the ordinarily skilled artisan. For example, in *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003 (Fed. Cir. 2018), the district court found that the claim limitations "program" and "user interface code" were in means-plus-function format. *Id.* at 1006–07. We reversed, explaining that the skilled artisan would have been able to "reasonably discern from the claim language" that the limitations were references to conventional programs or code "existing in [the] prior art at the time of the invention," not just "generic terms or black box recitations of structure or abstractions." *Id.* at 1008. Similarly, in *Dyfan v. Target Corp.*, 28 F.4th 1360 (Fed. Cir. 2022)—reversing the district court—we explained that "[u]nlike in the mechanical arts, the specific structure of software code and applications is partly defined by its function." *Id.* at 1368. For software-related claim limitations, like "code," we explained that "we can look beyond the initial 'code' . . . term to the functional language to see if a person of ordinary skill would have understood the claim limitation as a whole to connote sufficiently definite structure." *Id.* As for the term "memory," Google has not cited any cases holding that the term "memory" is a nonce term or devoid of sufficient structure so as to invoke § 112 ¶ 6 and we are aware of no such cases.

The specification provides further support for our conclusion. In contrast to the '045 patent, the specification

here describes the "processor" as hardware that runs the computer program code. Specifically, the specification teaches that the term "processor" is synonymous with terms like controller and computer and "should be understood to encompass not only computers having different architectures such as single/multi-processor architectures and sequential (Von Neumann)/parallel architectures but also specialized circuits such as field-programmable gate arrays (FPGA), application specific circuits (ASIC), signal processing devices and other devices." '825 patent col. 5, ll. 50–58.

The specification also discloses that the memory stores a computer program comprising computer program instructions. *Id*. col. 5, ll. 24–25. The specification then states that the computer program instructions "provide the logic and routines that enable[] the apparatus to perform the methods" described in the patent. '825 patent col. 5 ll. 31–33. And the claimed "computer program" can be found, the specification explains, in commercially-available and well-known formats, including "a computer-readable storage medium, a computer program product, a memory device, [or] a record medium such as a CD-ROM or DVD," *id*. col. 5 ll. 35–39, exactly the type of "references to conventional . . . programs or code, existing in prior art at the time of the inventions" that we explained provided structural detail in *Zeroclick*. 891 F.3d 1008.

On this record, Google has not presented any contrary, "more compelling evidence of the understanding of one of ordinary skill in the art," *Apex*, 325 F.3d at 1373, to rebut the presumption that this claim limitation is not in means-plus-function format. We therefore reverse the district court's determination regarding this claim limitation and remand for further proceedings.

CONCLUSION

We have considered both parties' remaining arguments and find them unpersuasive. For the foregoing reasons, we

affirm the district court's indefiniteness decision regarding the '045 patent, and we reverse the district court's indefiniteness decision regarding the '825 patent and remand for further proceedings.

AFFIRMED-IN-PART, REVERSED-IN-PART, AND REMANDED

COSTS

No costs.